

AMENDMENTS TO CLAIMS

Listing of Claims

1. (Currently amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate; and

a contact on the substrate configured to electrically engage the bumped contact, the contact comprising a recess in the substrate having a size approximately equal to that of the bumped contact, and a plurality of flexible metal leads cantilevered over the recess configured to support the bumped contact within the recess and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each metal lead comprising an outer layer selected to provide a non-bonding surface for the bumped contact.

~~having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant.~~

2. (Currently amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate; and

a contact on the substrate configured to electrically engage the bumped contact, the contact comprising a recess in the substrate having a size approximately equal to that of the bumped contact, a plurality of flexible leads cantilevered over the recess configured to support the bumped contact within the recess and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead comprising a conductive polymer outer layer.

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~~having a selected spring constant and at least one projection configured to penetrate the bumped contact, and a connecting segment substantially encircling a periphery of the recess configured to electrically connect the leads to one another.~~

Claims 3-4 (Withdrawn)

5. (Currently amended) The interconnect of claim 2 further comprising a conductive via in the substrate in electrical communication with the leads.
connecting segment.

6. (Currently amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;
a recess in the substrate; and
a plurality of flexible metal leads on the substrate cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each metal lead having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant, and a shape that substantially matches a topography of the bumped contact, and an outer layer selected to provide a non-bonding surface for the bumped contact.

7. (Previously amended) The interconnect of claim 6 wherein each lead includes a projection configured to penetrate the bumped contact.

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8. (Currently amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;

a recess in the substrate;

a plurality of flexible leads on the substrate cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead comprising an outer layer comprising a conductive polymer. ~~having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant, and a shape that substantially matches a topography of the bumped contact, and~~

~~a connecting segment on the substrate electrically connecting the leads to one another.~~

9. (Currently amended) The interconnect of claim 8 wherein the conductive polymer comprises a material selected from the group consisting of a carbon film and a metal filled silicone. ~~further comprising a conductive via in the substrate in electrical communication with the connecting segment.~~

10. (Currently amended) The interconnect of claim 9 further comprising a contact on the substrate in electrical communication with the leads.
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11. (Previously amended) The interconnect of claim 8 wherein the recess has four sides and the plurality of leads comprise four leads on the four sides.

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12. (Currently amended) An interconnect for testing a semiconductor component having a bumped contact comprising:

a substrate;
a recess in the substrate;
a plurality of leads on the substrate cantilevered over the recess and configured to move and to electrically engage the bumped contact within the recess, each lead having a radius of curvature substantially equal to a radius of the bumped contact comprising a conductive polymer outer layer; and

a segment on the substrate electrically connecting the leads.

Claims 13-16 (Withdrawn)

17. (Currently amended) The interconnect of claim 12 ...
the conductive polymer comprises a material selected from the group consisting of carbon and silicone.

wherein each lead has a cantilevered length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant.

18. (Currently amended) The interconnect of claim 12 further comprising a conductive via in the substrate in electrical communication with the leads.
segment.

19-24. (Withdrawn)

25. (Currently amended) A system for testing a semiconductor component having a bumped contact comprising:
a carrier for retaining the semiconductor component;
an interconnect on the carrier comprising a substrate, a recess in the substrate having a size approximately equal

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to that of the bumped contact, a plurality of leads cantilevered over the recess configured to electrically engage the bumped contact and to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped contact, each lead comprising an outer layer selected to provide a non-bonding surface for the bumped contact; and ~~and a segment on the substrate electrically connecting the leads; and~~

a test circuitry in electrical communication with the leads configured to apply test signals to the component.

26. (Previously amended) The system of claim 25 wherein each lead has a radius of curvature substantially equal to a radius of the bumped contact.

27. (Previously amended) The system of claim 25 further comprising a conductive via in the substrate in electrical communication with the segment.

28-30. (Withdrawn)

31. (Currently amended) A system for testing a semiconductor component having a bumped contact comprising:
a testing apparatus;
an interconnect on the testing apparatus comprising:
a substrate;
a recess in the substrate having a size approximately equal to that of the bumped contact;
a plurality of leads on the substrate configured to electrically engage the bumped contact, each lead cantilevered over the recess and configured to move within the recess by a distance sufficient to accommodate variations in a size, a shape or a planarity of the bumped

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contact, each lead comprising a conductive polymer outer layer; and

having a cantilever length, a width, a thickness and a modulus of elasticity selected to provide a desired spring constant, and a shape substantially matching a topography of the bumped contact; and

a connecting segment on the substrate electrically connecting the leads; and

a test circuitry in electrical communication with the connecting segment.

32. (Currently amended) The system of claim 31 wherein the conductive polymer comprises a material selected from the group consisting of carbon and silicone, further comprising a conductive via in the substrate in electrical communication with the connecting segment.

33-48. (Withdrawn)